REMARKS

This responds to the Office Action mailed on August 4, 2006, and the references cited therewith.

Claim 24 is amended. Claims 1-24 are now pending in this application.

§112 Rejection of the Claims

Claim 24 was rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. It has been amended solely to provide better antecedent for "noise floor". No new matter has been added.

§103 Rejection of the Claims

Claims 1-3, 6, 8, 13, 17 and 20-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dockemeyer, Jr. et al. (US 2004/0214540) in view of Haub et al. (US 20005/0026564). The references either alone or combined do not teach each and every element claimed. Dockenmeyer, Jr. et al. lacks sampling across a receive band. Further, Haub et al. teaches away from using multiple filters on the same receive band.

Dockenmeyer, Jr. et al., is cited as teaching sampling the receive band with receiver filters 44 and 64 in FIG. 2. However, the sampling performed in claim 1 is done with respect to receiving filters that are set to narrow bandwidths, and then used to obtain samples across substantially all of the receive band. This is very different from Dockenmeyer, Jr. et al., which does not sample, but essentially reads "the narrow band detected power signal strength for both of the primary and secondary signals." Paragraph 23. There is no concept of sampling across all of the receive band with narrow bandwidth filters as claimed.

Dockenmeyer, Jr. et al., was also cited as describing measuring received power at each sample at 108 (Fig. 4). This is respectfully traversed. Element 108 appears to "read signal quality" at one frequency, not at each sample corresponding to samples across substantially all of the receive band as claimed. Thus, Dockenmeyer, Jr. et al., lacks at least two elements it was stated as describing. The rejection should be withdrawn.

The Office Action indicates that Haub et al. teaches current reduction by dynamic receiver adjustment in a communication device by setting filters 320 and 323 (Fig. 3) to a narrow

bandwidth (Section 0030 and 0047). This teaching does not address the basic lack of teaching of sampling across a receive band in Dockemeyer, Jr. et al. Paragraph 0030 of Haub et al., describes a receiver circuit 302 that communications on different frequency bands through a duplex filter 104, thus **teaching away** from sampling one band with multiple receivers as claimed. Elements 320 and 323 are described as an analog filter block and a digital filter block. There is no discussion of them being set to a narrow bandwidth as stated in the Office Action. Further, paragraph 0047 in Haub et al., simply refers to reducing the dynamic range of a receiver if there is no need for the full dynamic range. This does not appear to be at all related to setting a filter to a narrow bandwidth for sampling across a receive band as claimed. Since several elements of the claims are not taught or suggested by the references alone or combined, a proper prima facie case of obviousness has not been established, and the rejection should be withdrawn.

With respect to claim 2, the Office Action appears to cite a narrowband definition that states: "In CDMA radio, using less than 5 MHZ of bandwidth in each direction." Claim 2 receives that the narrow bandwidth is approximately 100KHz or less. This is an order of magnitude less than that stated in the definition cited. Further, there is no suggestion for combining this newly cited reference with the other references. Thus, a prima facie case of obviousness has not been established for several reasons, and the rejection should be withdrawn.

Regarding claim 3, the Office Action states that it is "possible and obvious that wherein the number of samples per receiver filter can be set between approximately 5 and 10 across a receive band of approximately 25 MHz (Section 0030 and 0047)." These sections or paragraphs have been reviewed as indicated above, and appear to have nothing to do with sampling, much less suggesting the number of samples across a receive band. Thus, the rejection should be withdrawn.

Dependent claims 2-8 are believed patentable for at least the same reasons as claim 1.

Independent claim 17 describes using multiple filter receivers to cover the bandwidth of a channel, as described in the combination of the first two elements. The Office Action indicates that this is described in Dockenmeyer, Jr. et al., at paragraph 23. This assertion is respectfully traversed. Paragraph 23 appears to "read wide band detected power signal strength of the satellite (primary) signal." Applicant fails to see how this teaches the claimed method of merging receiver filters to cover the bandwidth of a channel. As this element is lacking from

Dockenmeyer, Jr. et al., a proper prima facie case of obviousness has not been established, and the rejection should be withdrawn.

Further, claim 17 includes "increasing the receiver attenuation to protect the receiver from operating in the non-linear region and prevent an ADC (analog to digital converter) from saturation when a strong interfering signal is present." The Final Office Action indicates that Dockemeyer, Jr. et al. increases receiver attenuation at 40 and 60 in Fig. 2) from saturation when a strong interfering signal is present (fig. 4). The Final Office Action also asserts that the element may be found in Fig. 2 and 1 as "there has to be some sort of D/A converter for it to go into the Digital Demodulator 20 (Fig. 1) and then the signal later on gets converted back to analog 26 (Fig. 1)" This statement does not appear to relate to increasing receiver attenuation as claimed.

Dependent claims 18-22 are believed patentable for at least the same reasons as claim 17.

Claim 23 is written in means plus function form. The Office Action indicates that Dockemeyer, Jr. et al., teaches means for merging the receiver to significantly cover the3 bandwidth of a channel (section 0023). Paragraph 23 appears to "read wide band detected power signal strength of the satellite (primary) signal." This language does not teach or suggest the claimed function of merging receiver filters to cover the bandwidth of a channel. It only describes reading a wide band, not merging receiver filters as claimed. As this element is lacking from Dockenmeyer, Jr. et al., a proper prima facie case of obviousness has not been established, and the rejection should be withdrawn.

The Office Action also asserts that Haub et al. teaches means for setting a bandwidth for multiple receiver filters 320 and 323 to a portion of a channel bandwidth that is a function of the number of such receiver filters. As previously indicated, paragraphs 0030 and 0047 provide no such teaching.

Claim 24 is written in means plus function format. The means elements should be interpreted as the structures and their equivalents that are described in the specification as performing the functions recited. The first element of claim 24 is "means for detecting interference". This element is summarized at least in paragraph 28, and as shown in FIG. 2 starting at 225, and in FIG.s 3A-3D, where multiple filters are set to fractions of a channel and the total power received by each filter is compared to thresholds. In one embodiment, three

filters are each set to 1/3rd of the bandwidth of a channel. The Office Action indicates that Dockenmeyer, Jr. et al., teaches means for detecting interference 52 and 50 or 70 (Fig. 2). Elements 50 and 70 are referred to as narrow band detectors, and element 52 is a wide band detector. There is no discussion of the use of multiple filters set to cover a channel, as correspond to the claimed means. Thus, Dockenmeyer, Jr. et al., does not describe the first element as properly interpreted.

The second element of claim 24 is "means for adjusting receiver gain based on narrowband sampling of the noise floor." This element is described with respect to FIG. 4, and corresponds to a narrow band filter (100Hz in one embodiment) being swept across a receiving band to search for the minimum Rx power. Paragraph 27 provides a summary of this element. Dockenmeyer, Jr. et al., is described in the Office Action as showing narrowband sampling of the noise floor by 50 or 70. The noise floor is equated to interference by the Office Action. While Dockenmeyer, Jr. et al., describes narrow band power detectors 50 and 70, there is no discussion of sweeping across a receiving band. Both of the narrow power band detectors 50 and 70 of Dockenmeyer, Jr. et al., are described as simply receiving the output of variable gain amplifiers which are processed by analog to digital filters.

Applicant has reviewed Dockenmeyer, Jr. et al., and has not found any discussion of either of the means elements of claim 24. There was no combination of filters to detect interference, nor any sweeping or sampling by a narrowband filter as claimed. Thus, claim 24 is believed to clearly distinguish the reference, and the rejection should be withdrawn.

Claims 4, 5 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dockemeyer, Jr. et al. and Haub et al. and further in vie wof Vepsalainen et al. (US 2004/0176055). These claims depend from claims which are believed allowable, and as such, are also believed allowable.

Claims 7 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dockemeyer, Jr. et al. in view of Haub et al. and further in view of Usui et al. (US 5,818,827). These claims depend from claims which are believed allowable, and as such, are also believed allowable.

Claims 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Haub et al. This rejection is respectfully traversed. The Office Action indicates that "Haub et al. fails to teach clearly about a micro-controller that adjusts the receiver filter to sample a narrow bandwidth." However, more than that is claimed. The claim recites that the narrow bandwidth is sampled **across a receive band.** Thus, rejection fails to address a portion of the claim, that of sampling a narrow bandwidth across a receive band. It only alleges that Haub et al. can sample a narrow bandwidth, not across a receive band.

Claim 9 recites that a micro-controller adjusts a receiver filter to sample a narrow bandwidth across a receive band and adjusts a gain of the receiver as a function of power detected. The Office Action indicates that Haub et al., fails to teach clearly about a micro-controller that adjusts the receiver filter to sample a narrow bandwidth. It further indicates that it would have been obvious to do so because "there is implied of some sort of narrowband filtering is done because the receiver handles both wideband and narrowband communications and the filters can be adjusted (Section 0030 and 0047). These sections have been discussed above, and no such teaching was found. Further, Haub et al., does not describe sampling across a receive band as claimed.

The Office Action indicates that "Haub et al. fails to teach clearly about a micro-controller that adjusts the receiver filter to sample a narrow bandwidth", but by use of the language "there is implied of some sort..." appears to be invoking some form of inherency. The Office Action has not established a *prima facie* case of inherency because, as recited in MPEP § 2112, "In relying upon the theory of inherency, the examiner must provide basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art," citing Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

The Office Action only argued that some sort of narrowband filtering is done because the receiver handles both wideband and narrowband communications. Thus, the Office Action does not even assert that the allegedly inherent characteristic is necessary, let alone provide a basis in fact and/or technical reasoning. Applicant respectfully submits that handling both wideband and narrowband communications does not mean that the receiver filter is adjusted to sample a narrow bandwidth across a receive band as claimed. The allegedly inherent characteristic does not

necessarily flow from the teachings of Haub et al. In fact, claim 9 recites a very different structure and function than that described in Haub et al. As such, the rejection should be withdrawn.

Claims 10-13 are believed patentable for at least the same reasons as claim 9, from which they depend.

Claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Haub et al. in view of Lindell et al. (US 6,978,125) a applied to claims 9 and 14 above, and further in view of Cho (US 2003/0073423). This claim depends from a claim which is believed allowable, and as such, is also believed allowable.

Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Haub et al. in view of Seo (US 6,738,367). This claim depends from a claim which is believed allowable, and as such, is also believed allowable.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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